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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,841	12/14/2001	James K. Walker	UF-262CX	8855

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EXAMINER	
LEE, JOHN D	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/016,841	WALKER ET AL.	
	Examiner	Art Unit	
	John D. Lee	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *21-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 11-20* is/are rejected.

7)☒ Claim(s) *8-10* is/are objected to.

8)☒ Claim(s) *1-45* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0302,1202*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Applicant's election without traverse of Invention I (claims 1-20) in the communication submitted on June 14, 2004, is acknowledged. Claims 21-45 are withdrawn from further consideration by the Examiner, 37 CFR § 1.142(b), as being drawn to a non-elected invention.

The formal drawings filed with this application on December 14, 2001, are acceptable.

The specification has not been studied to the extent necessary to determine all possible minor errors therein. Applicant's cooperation is requested in correcting any errors of which applicant may become aware.

Claim 4 is objected to for the following minor informality. In lines 2 and 3 of claim 4, there is no antecedent support for the term "the cooling wheel". This is because of the chain of dependency of claim 4. Accordingly, it is suggested that claim 3 (upon which claim 4 depends) should be dependent upon claim 2 rather than upon claim 1.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 11, 12, and 19 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent 5,393,470 to Miller. Miller discloses a method of producing an m x N sheet of optical fibers, comprising: extruding a core material through an extrusion die and extruding a cladding material through an extrusion die (which constitutes "co-extruding" through a "co-extrusion die"), wherein an m x N array of optical fibers is extruded, each having a portion of the extruded core material surrounded

by a portion of the cladding material, and wherein m << N; merging adjacent optical fibers together after the m x N array of optical fibers exit the die to form an m x N sheet of optical fibers; and cooling the m x N sheet of optical fibers so as to solidify the m x N sheet of optical fibers. Miller further discloses utilizing rollers **20** and **21** (which constitute "wheels") to cool and rigidize the m x N sheet of optical fibers (see column 3, lines 59-61) after merging adjacent optical fibers together. With respect to claims 11 and 12, note that m can be as low as 1 while N can be as large as 350 (column 5, lines 36-45).

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-7, 13-18, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,393,470 to Miller in view of U.S. Patent 6,548,431 to Bansal et al. Miller does not disclose, as a part of the method of producing an m x N sheet of optical fibers, drawing down the m x N sheet of optical fibers before cooling. Bansal et al, however, in a very related co-extrusion method of producing a sheet of core/clad non-optical fibers, teaches drawing down the fibers prior to the quenching (cooling) stage in order to reduce their size and impart increased strength (column 12, lines 54-56). Moreover, a person of ordinary skill in the fiber extruding art would know that fibers must be reduced in size after extrusion in order to achieve the requisite diameter required for optical purposes. It would therefore have been obvious to the ordinarily skilled artisan to use the teachings of Bansal et al in the Miller fiber extrusion method, and thus include means for drawing down the m x N sheet of optical fibers

before cooling. In accordance with standard drawing down techniques in the art, and as taught by Bansal et al, this would include rotating the rollers ("wheels") **20** and **21** at a speed which causes advancement of the fibers faster than the rate of extrusion from the extrusion die. The particular ratio (wheel speed to extrusion rate) would obviously be determined experimentally in order to produce fibers of a particular diameter. Notice that the finished products of Miller (the fiber sheets) can have any desired cross-sectional shape (column 5, lines 40-45). The control over shape, draw-down speed, and materials used would obviously allow for tight control over the desired index of refraction profile of the produced fibers, and any particular index profile would have been obvious. Speaking of materials used, note that the Miller process is designed for use with acrylic plastic materials (column 1, lines 42-43), which means that the particular core and cladding materials claimed by applicant would have been obvious therein. Note also that there is some overlap between the diameters of the fibers produced by Miller (2 mm to 3 mm) and those claimed by applicant (2 μ to 2,000 μ), since 2 mm = 2,000 μ. Applicant's claimed diameter range would thus have been obvious in Miller.

Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Miller, the closest prior art of record, does not disclose or suggest co-extruding a sea material through the co-extrusion die, in addition to co-extruding the core and cladding material therethrough.

All of the prior art documents submitted by applicant in the Information Disclosure Statements filed on March 7, 2002, and December 10, 2002 have been considered and made of record. Note the attached initialed copy of forms PTO-1449.

None of these documents is considered to be any closer to the claimed invention than the Miller reference relied on above.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. §§ 102(e), (f) or (g) prior art under 35 U.S.C. § 103(a).

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

John D. Lee

John D. Lee
Primary Patent Examiner
Group Art Unit 2874